

Status Update

Issue #3 – November 2017

Red Hill Underground Fuel Storage Facility

Implementation of the Administrative Consent Agreement between the Navy and Defense Logistics Agency and Hawaii Department of Health and US EPA for Environmental Investigation, Cleanup and Environmental Performance



HIGHLIGHTS OF INFORMATION IN THIS ISSUE:

- Regulatory Agencies Approve Improved Enhanced Tank Inspection, Repair and Maintenance Procedures Approved by Regulatory Agencies
- Navy Continues to Expand Groundwater Monitoring Network Expansion Continues
- Latest Drinking Water Sampling Continues to Meet Federal and State Standards Results
- Groundwater Experts Convene to Study Conditions Around Red Hill
- Tank Upgrade and Alternative Location Studies Near Completion
- Tank Upgrade Decision Process and Schedule Process for Selecting Tank Upgrades
- Public Information Workshop on Tank Upgrade Alternatives Tank Upgrades in Late Winter/ Early Spring 2018

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Regulatory Agencies Approve Enhanced Tank Maintenance Procedures IMPROVED TANK INSPECTION, REPAIR, AND MAINTENANCE PROCEDURES APPROVED BY REGULATORY AGENCIES

On September 5, 2017, the Hawaii Department of Health and US Environmental Protection Agency, RA (the Regulatory Agencies) approved the Navy's updated Tank Inspection, Repair, and Maintenance ("TIRM") Procedures for the Red Hill tanks. These improvements in tank maintenance procedures are a major step forward to help reduce the risk of future releases of fuel from the tanks. The release of approximately 27,000 gallons of jet fuel, that occurred during the return to service of tank #6 as it was being filled immediately after maintenance had been performed, was a direct result of flaws in the prior Navy procedures.

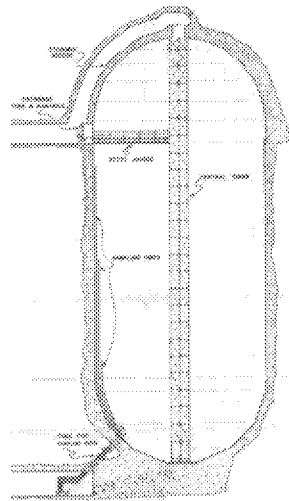


Figure 3-1 Typical Tank Cross-Section

Some of the most notable improvements to the procedures include:

- Qualification requirements for Navy and contractor personnel
- Improved non-destructive inspection testing procedures
- Improved repair and repair inspection verification procedures
- Major increase in increased oversight of Navy oversight of contractors
- More Additional cautious protective measures prior to recommissioning tanks return to service procedures
- Increased frequency of precision tank leak testing
- Expanded use of high performance interior coating to improve reliability of the steel tank liner prevent leaks

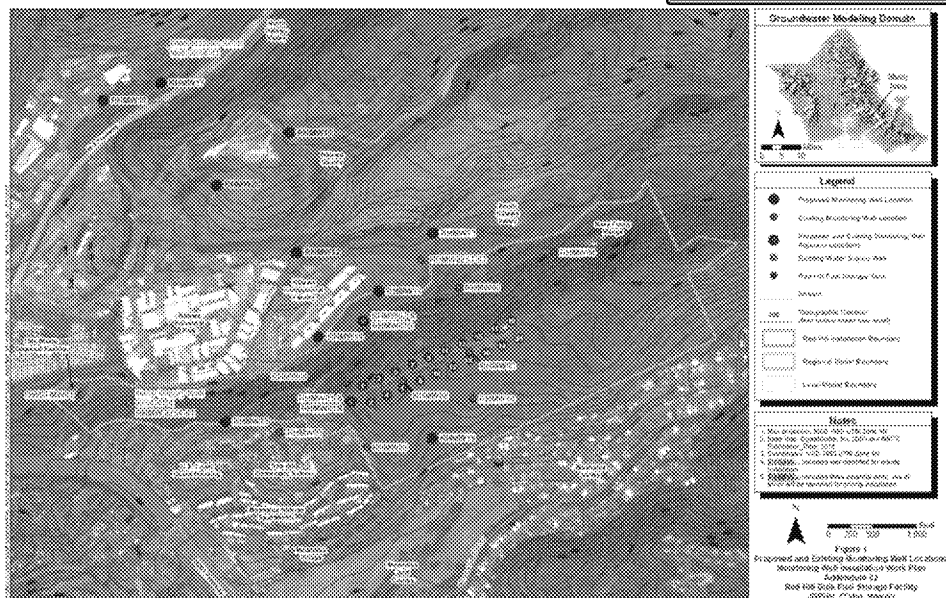
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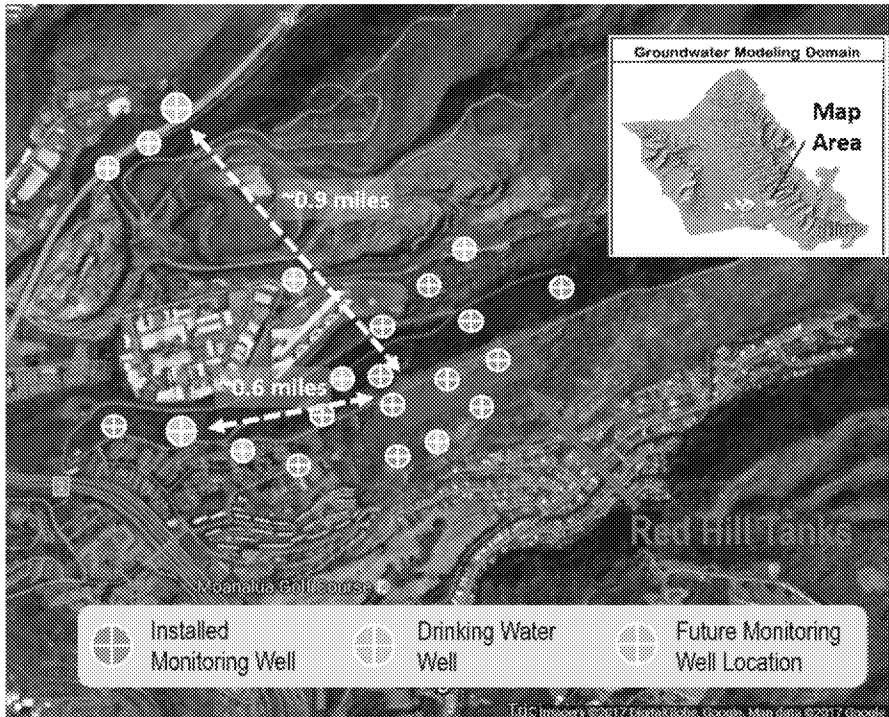
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GROUNDWATER MONITORING NETWORK EXPANSION CONTINUES Navy Continues to Expand Groundwater Monitoring Network

The Red Hill Fuel Tanks

The Navy's Red Hill Bulk Fuel Storage Facility, located near Pearl Harbor, provides fuel for military operations in the Pacific. First constructed in the 1940s, the unique facility includes 20 large underground storage tanks with a facility-wide capacity of approximately 250 million gallons of fuel. A fuel release of roughly 27,000 gallons in January 2014 led to a comprehensive plan to minimize the threat of future leaks and protect groundwater resources around the facility.





The new monitoring wells will be designed with seals between water bearing layers and special multiple ports inside the well to collect water samples. These wells will provide additional information that will provide for a better understanding of groundwater water flow in three dimensions and may provide information that could also identify if any water bearing layers contain contamination that can be specifically targeted for cleanup. Since these wells draw water from isolated water-bearing zones, contaminant concentrations can differ significantly between zones, and we may see much higher concentrations of pollutants may be identified at the wells near the tanks that current are measured currently in the larger with a single screened well. This is because the sample represents a smaller area, and concentrations are calculated per-zone rather than for the entire well.

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Drinking Water Sampling Continues to Meet Federal And State Standards

Drinking water samples continues to meet federal and state standards, and the most recent drinking water testing results indicate that the public drinking water supply is safe. Depending on your location, drinking water in the Red Hill region is either supplied by the Honolulu Board of Water Supply, or Joint Base Pearl Harbor-Hickam Water System. The most recent drinking water testing indicates that the public drinking water supply is safe. Full drinking water reports are available on your local water purveyor's website.

Groundwater Groundwater Experts Convene to Study Conditions Around Red Hill MODELING Working GROUP Meetings Continue

A technical working group was formed to discuss groundwater conditions near the facility. This group has representatives from the United States Geological Survey (USGS), Hawaii Department of Land and

Natural Resources (DLNR), Honolulu Board of Water Supply, Hawaii Department of Health, US EPA and the , as well as USEPA and the US Navy have formed a working group to discuss groundwater conditions around the Red Hill facility. Comprised of engineers, expert scientists and hydrogeologists, This expert group was formed to put forward the best effort to develop a regional groundwater model that can be used to determine potential impacts to the area from Red Hill. This group will continue to review Navy work products and examines best practices to be employed throughout the development of as a regional groundwater model is being formulateddeveloped. The regional groundwater model is necessary to understand how water moves through the subsurface. An accurate understanding of groundwater flow will provide a strong basis for predictions forpredicting how contamination will act in the subsurface. The regional groundwater model will... text definition

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Tank Upgrade Andand Alternative Locations Studies Near Completion

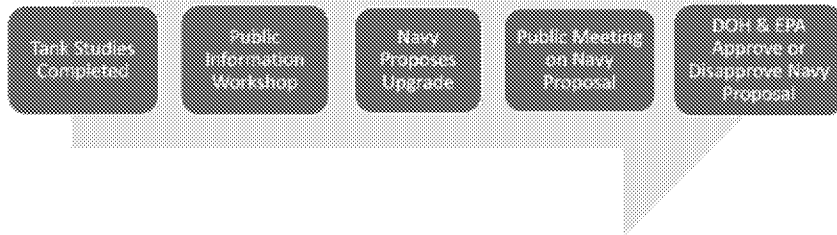
The Navy hired expert engineering consultants to study both tank upgrade options and alternative fuel storage locations. These two studies to be completed by the middle of December 2017 will be provide critical information that to the Navy and the Hawaii Department of Health and the U.S. EPA Regulatory Agencies will as they begin to considering in the process of evaluating the appropriate approach to how tanks at the facility should be upgraded tank upgrades. The Tank Upgrade Study will provide an evaluate six tank upgrade options through ion of approximately 20 factors on six upgrade options ranging from construction challenges and cost to inspection and maintenance requirements. Three of the options involve utilize a use of a single tank walled tank system and three involve foresee a double walled systems. The Alternative Locations Study is limited to investigating locations that would provide fuel support to Joint Base Pearl Harbor Hickam.

Tank Upgrade Alternative Decision Process and ScheduleProcess for Selecting Tank Upgrades

While the Navy conducts a study on alternative site locations, it is also conducting a study to investigate potential options for improving the containment structure of the tanks at Red Hill while the facility remains in operation. Rather than This study will not recommend a specific upgrade ed option, the tank study will provide conceptual design information regarding the tank upgrade alternatives. This information will be used in conjunction with work from other portions of the Red Hill Administrative Order on Consent and input from the community to ultimately inform the Navy and Hawaii Department of Health and U.S. EPA's determination of how to best upgrade the tanks.

The graphic below shows how public input will be sequenced and incorporated into a tank upgrade decision. Following completion of the tank studies, a public information workshop will be held to explain the content of the studies and to allow the Navy and Hawaii Department of Health and U.S. EPA to respond to questions and concerns from the community. Additional technical meetings to discuss the tank upgrade options will be held after the workshop and then the Navy will propose to implement a tank upgrade option. Hawaii Department of Health and U.S. EPA will then hold a public meeting to hear from the community about the Navy's proposed upgrade decision before electing to approve or disapprove the Navy's proposal.

Public Involvement



A decision on how to best upgrade the tanks at Red Hill will be revisited once every five years. For this first tank upgrade decision, six tank upgrade options are being closely evaluated.

Tank Upgrade Options

- a. Maintaining existing tank material
- b. Add a full internal coating
- c. Replace interior lining with new steel
- d. Double-wall tank with carbon steel
- e. Double-wall tank with stainless steel
- f. New tank constructed inside existing tank

Evaluated

for

- Environmental performance
- Operational performance
- Construction feasibility
- Capital and lifecycle cost
- Community factors

Other information along with this study will be considered in the decision process. More information on the tank upgrade decision process is described in the document titled _____ that is available on the Tank Upgrade Alternatives page of EPA's Red Hill website.

Upcoming Workshop on Tank Upgrade Alternatives
Public Information Workshop on Tank Upgrades

The Navy and the Hawaii Department of Health and U.S. EPA Regulatory Agencies will be hosting a public information workshop in late Winter or early Spring of 2016 in Honolulu, Hawaii onatatp.m. to answer questions about the Tank Upgrade and Alternative location studies. The workshop will be an open-house style format to allow community members an opportunity for people to have their individual questions answered one on one with representatives from each organization.

In addition, based on feedback

For Further Information

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